Team Member's Names: Jenny and Delaney

School: Mount Vernon Middle School, Mount Vernon, IA

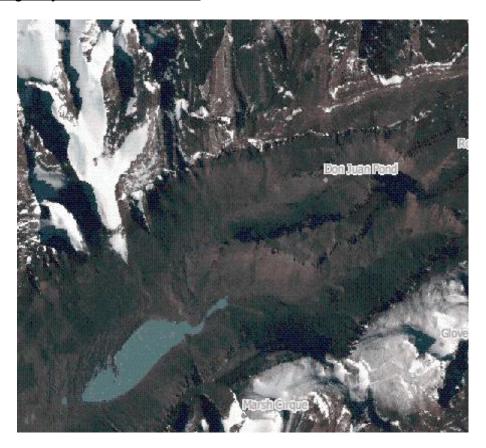
Teacher: Mrs. Scearce

#### Proposal:

## 1. The name and/or description of your chosen ice feature

Our feature's name is Don Juan Pond and it is a hypersaline pond with no fish (only hardy bacteria.) The description on Lima says- "A shallow saline pond located south of the Dais in the South Fork of Wright Valley, Victoria Land. The pond was sighted on Oct. 11, 1961 in a field reconnaissance by U.S. Navy helicopter. In the next three months, a USARP party with George H. Meyer and others made several trips to study the pond. They named it Don Juan Pond for Lieutenants Donald Roe and John Hickey, U.S. Navy Air Development Squadron Six, who were of assistance to the field party. A new mineral, calcium chloride hexahydrate, was discovered in the pond. The name Antarcticite was proposed for the new mineral."

### 2.An image of your chosen ice feature



3.The location of your selected feature in terms of its longitude and latitude as well as the region of Antarctica in which it exists. (Teams are encouraged to include a map of Antarctica with a mark pinpointing the location of their selected feature).



It's located at 77.3400S latitude and 161.1100E longitude.

#### 4.A paragraph explaining why your chosen ice feature is scientifically interesting.

Our chosen ice feature is interesting because it is a pond in Antarctica and it is not frozen over. It is the saltiest wet place known on earth (in a surficial environment).

# <u>5.A paragraph hypothesizing what geologic processes you think are occurring to create</u> this ice feature.

Jim (who is a scientist) said that Don Juan Pond has water recharge as it's source of hypersaline waters. We believe that the water recharge should be investigated more thoroughly. He also said that the "bio" side of DJP includes interesting exogenic cyanobacteria. That means that the bacteria did not originate in the pond and that it is blue-green and can photosynthesize. The current consensus is that the bioto within the "pond" are introduced. That is interesting because if there was endogenic life originally it is no longer there, and it also indicates that we may be introducing things to this extreme environment and we should find out where they came from.

6.A paragraph asserting why you and your team should be funded to further investigate this area of Antarctica. (In other words, what are the potential benefits of exploring this feature?)

\_This feature should be funded for further exploration because there are not many ponds in Antarctica that are not frozen, and scientists should find out why. Perhaps there are areas like this extreme environment on other planets like Mars. Also the rocks around DJP may have little endolithic bacteria and microbes in them that would be interesting to study. The environment in Antarctica is so harsh that life has found a way to exist inside rocks in order to escape the extremes. That may be another clue to finding life on other planets.